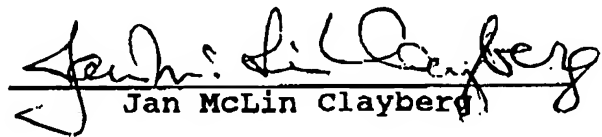


December 5, 2005

DECLARATION

The undersigned, Jan McLin Clayberg, having an office at 5316 Little Falls Road, Arlington, VA 22207-1522, hereby states that she is well acquainted with both the English and German languages and that the attached is a true translation to the best of her knowledge and ability of the specification and claims of international patent application PCT/EP2004/006987 of BAECKER, F., ET AL., entitled "DEVICE COMPRISING A BOILER FOR GENERATING STEAM".

The undersigned further declares that the above statement is true; and further, that this statement was made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or document or any patent resulting therefrom.


Jan McLin Clayberg

DEVICE COMPRISING A BOILER FOR GENERATING STEAM

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The invention relates to a device as generically defined by the preambles to claim 1 and claim 3, respectively.

One such device for steam treatment of hair is known
10 from US Patent 4,314,138 A, for instance. In it, there is the risk that the boiler can become overfilled with water, which can cause an impairment in steam generation. It is in fact possible to fill the boiler up to a steam outlet opening, as a result of which boiling, bubbling water from the boiler is
15 forced into the device and can even get into a treatment dome of the steam treatment device, with the possible risk of scalding a person to be treated.

It is therefore the object of the invention to create a
20 device of this generic type that by simple provisions does not have this disadvantage.

This object is attained by the characteristics of the body of claim 1 and claim 3, respectively. As a result, in
25 operation of the device, there is always adequate boiling space available in the boiler used.

The invention will be described in further detail in terms of two exemplary embodiments.

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Shown are:

Fig. 1, a first exemplary embodiment of a device in a sectional side view, with a boiler and a steam conduit

coupling;

Fig. 2, a side view II-II on the device of Fig. 1;

5 Fig. 3, a side view III-III on a steam conduit;

Fig. 4, a second exemplary embodiment of a device in a sectional side view, with a boiler and a steam conduit coupling;

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Fig. 5, a side view V-V on the device of Fig. 4;

Fig. 6, a side view VI-VI on a steam conduit; and

15 Fig. 7, in a complete view, the steam treatment device with a boiler of the second exemplary embodiment.

Fig. 1 shows a device 2 with a boiler 1 for generating steam, for instance for a steam treatment of hair; the boiler 1 inserted into a receptacle 15 has a refill cap 3, located at the top, and a steam outlet opening 4. The steam outlet opening 4 is located in the upper lateral region 5 of the boiler 1. Below the steam outlet opening 4, the boiler 1 is provided with an outflow opening 6; a lower edge 7 of the steam outlet opening 4 and a lower edge 8 of the outflow opening 6 form a height H of a boiling space W, and the steam outlet opening 4 corresponds to a steam conduit coupling 9 of a steam conduit 10, and the outflow opening 6 corresponds with a closure part 11 of the receptacle 15.

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By simple provisions, the closure part 11 is formed by an inner wall 16 of the receptacle 15.

The steam conduit coupling 9 and the steam outlet opening 4 and the outflow opening 6 are provided with an elastic seal 13, 13.1, so that given suitable dimensioning of the receptacle 15, a fluid-tight and pressure-proof steam conduit coupling 9 in relation to an inner wall 16 of the receptacle 15 is created as a sealing face.

For refilling the boiler 1, the boiler is removed from the receptacle 15, and via the cap 3, water 20 is introduced until it flows out of the outflow opening 6, resulting in a maximum fill height that is determined by the lower edge of the outflow opening 6. The boiler 1 is then inserted into the receptacle 15 again, as a result of which the outflow opening 6 is closed by the closure part 11, or by the inner wall 16. The result is necessarily an enlarged boiling space W that is required for seething, boiling water 20 during operation of the device 2; as a result, seething, boiling water 20 is prevented from spilling over into the device 2, thus averting a scalding injury.

Fig. 2 shows a side view II-II on the boiler 1 of Fig. 1, in which the seals 13, 13.1 are further seen in a plan view. The boiler 1 can selectively have a circular, rectangular, or elliptical cross-sectional area.

Fig. 3 shows a side view III-III on a steam conduit inlet 17 of the receptacle 15; the steam conduit inlet 17 is located in the plane of the inner wall 16 and corresponds with the steam outlet opening 4 of the seal 13. The outflow opening 6 is closed in fluid- or steam-tight fashion by the inner wall 16 of the receptacle 15, so that only steam from the steam outlet opening 4 can flow into the steam conduit inlet 17.

Fig. 4 shows, as a second exemplary embodiment, a device 2 with a boiler 1.1 for generating steam, for instance for a steam treatment of hair, in which the boiler 1.1, inserted into a receptacle 15, has a refill cap 3.1 located at the top and a steam outlet opening 4.1. The steam outlet opening 4.1 is located in the upper lateral region 5 of the boiler 1.1. The steam outlet opening 4.1 is enlarged toward the bottom with a depth T, and the enlarged part V of the steam outlet opening 4.1 forms an outflow opening 6.1; the depth T forms a height H of a boiling space W; and a height point HP of the height H is predetermined by a lower edge 18 of a steam conduit inlet 17 of the steam conduit 10. Below the steam conduit inlet 17, a region 12 of an inner wall 16 of the receptacle 15 closes the outflow opening 6.1.

The steam conduit coupling 9.1 is provided with an elastic seal 13.2, whereupon a fluid-tight and pressure-proof connection in relation to the region 12 of the inner wall 16 of the receptacle 15 is created as a sealing face.

For refilling the boiler 1.1, the boiler is removed from the receptacle 15, and water 20 is introduced via the cap 3 until it flows out of the outflow opening 6.1, as a result of which a maximum fill height is created by a lower edge 8.1. This necessarily creates a boiling space W, which is necessary for seething, boiling water 20 during operation of the device 2. The boiler 1.1 is then inserted back into the receptacle 15, and below the steam conduit inlet 17, a region 12 of an inner wall 16 of the receptacle 15 closes the outflow opening 6.1.

Fig. 5 shows a side view V-V on the boiler of Fig. 4. The steam outlet opening 4.1 and the outflow opening 6.1

together have the shape of an upright ellipse 19, and as the seal 13.2, a sealing ring in the form of an ellipse 19 is provided.

5 Fig. 6 shows a side view VI-VI on a steam conduit inlet 17; the steam conduit inlet 17 is located in the plane of the inner wall 16.

10 Fig. 7, in a complete view, shows a device 2, embodied as a steam treatment device 14 with a steam hood 31, for a steam treatment of hair; the steam hood 31 is provided with a steam distribution ring 37. In this exemplary embodiment, the boiler 1.1 is provided with an electric heater 21 and an electric coupling 22 as structural unit 32, which can be
15 removed as a complete unit from the receptacle 15. In Figs. 1, 2, 4 and 5, this structural unit 32 is suggested by dashed lines. The boiler 1, 1.1 is preferably produced economically of heat-resistant plastic and as a result can also be removed in its upper region without the risk of burning. A heat-
20 insulated handle may selectively be provided as well. For fixing the boiler 1.1 in the receptacle 15, the steam treatment device 14 is provided with a swivel cap 33, which is shown in an open position. The steam treatment device 14 has a handle 34 for shifting the steam hood 31. A stand connection
25 35 is also provided, for connection to a flow-mounted stand, not shown, with which the steam treatment device 14 can also be adjusted in height. For supplying electrical energy, the steam treatment device 14 has a mains connection 36. A display panel/operator control panel 38 is provided for the operation
30 of the steam treatment device 14.

List of Reference Numerals:

	1, 1.1	Boiler
5	2	Device
	3, 3.1	Refill cap
	4, 4.1	Steam outlet opening
	5	Lateral region
10	6, 6.1	Outflow opening
	7	Lower edge of steam outlet opening
	8, 8.1	Lower edge of outflow opening
	9, 9.1	Steam conduit coupling
	10	Steam conduit
15	11	Closure part
	12	Lower region
	13, 13.1, 13.2	Seal
	14	Steam treatment device
	15	Receptacle
20	16	Inner wall
	17	Steam conduit inlet
	18	Lower edge of steam conduit inlet 17
	19	Ellipse
	20	Water
25	21	Electric heater
	22	Electric coupling
	31	Steam hood
	32	Structural unit
	33	Swivel cap
30	34	Handle
	35	Stand connection
	36	Mains connection
	37	Steam distribution ring

38 Display panel/operator control panel
H Height
HP Height point
T Depth
5 V Enlarged part
W Boiling space